

Application Number 10/722,628
Amendment Dated January 13, 2006
Reply to Office action of September 13, 2005

Amendments to the Specification:

Please replace the paragraph beginning at page 1, line 4, with the following rewritten paragraph:

--The present invention relates to a pressure balancing cartridge for a mixing valve, which is used in showers and the like for mixing hot and cold water, maintaining the desired mixture even when water is used at another location on the water supply line, such as when a toilet is flushed, commonly referred to in the industry as an anti-scald mixing valve. More specifically, the cartridge of the present invention is made of a casing, an upper stem, a lower stem assembly and a balancing spool within the lower stem assembly both made of the suitable inexpensive material, creating a balancing spool which will not "seize up" or fail in bad water environments and which is protected from damage by "water hammer" shock by a shock absorbing spring, with the spring also helping to clear deposits from within the cartridge.--

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A pressure balancing cartridge for use in a an anti-scald hot and cold water mixing valve, and the pressure balancing cartridge comprising a casing, a sleeve within the casing, and a reciprocating balancing spool within the sleeve, the improvement comprising:

the sleeve and spool being molded of a very high temperature ultra lubricated plastic resin to prevent thermal malformation thereof due to prolonged contact with hot water, and to prevent the build up of mineral deposits and debris commonly found in aqueous solution in water supplies, within the mixing valve.

2. (Currently Amended) The cartridge of claim 1 wherein the preferred plastic resin is a PTFE compound.

3. (Currently Amended) A pressure balancing cartridge for use in a an anti-scald hot and cold water mixing valve, the cartridge comprising at least a casing, a sleeve within the casing, a metal stem engaged within one end of the sleeve, and a reciprocating balancing spool within the sleeve, the improvement comprising:

a biasing spring inserted between the stem and the

top end of the balancing spool to protect the spool from "water shock" effect and to mechanically shear away and mechanically digest any contaminant deposits in the area of the spring.

4.(Original) The cartridge of claim 3 wherein the spring biases the balancing spool away from the stem.

5.(Currently Amended) A pressure balancing cartridge for use in a an anti-scald hot and cold water mixing valve the cartridge comprising at least a casing, a sleeve within the casing, a metal stem engaged within one end of the sleeve, and a reciprocating balancing spool within the sleeve, the improvement comprising:

the sleeve and spool being molded of a very high temperature ultra lubricated resin or plastic; and

a biasing spring inserted between the stem and an end of the balancing spool adjacent the stem.

6.(Original) The cartridge of claim 5 wherein the preferred resin is one which is ultra lubricitous and very high temperature.

7.(Original) The cartridge of claim 5 wherein the spring biases the balancing spool away from the stem.

8.(Currently Amended) A pressure balancing cartridge for use in a an anti-scald hot and cold water mixing valve, the cartridge comprising at least a casing, a sleeve within the casing having a reciprocating balancing spool within the sleeve; the improvement

comprising:

the sleeve being made of a very high temperature
ultra lubricitous plastic resin.

9.(Currently Amended) The cartridge of claim 8 wherein the
plastic resin is ~~preferably~~ a PTFE compound.

10.(Currently Amended) A pressure balancing cartridge for use
in ~~a~~ an anti-scald hot and cold water mixing valve, the cartridge
comprising at least a sleeve having a reciprocating balancing spool
within the sleeve; the improvement comprising:

the spool being made of a very high temperature
ultra lubricitous plastic resin.

11.(Original) The cartridge of claim 10 wherein the plastic
resin is preferably a PTFE compound.

12.(Original) A pressure balancing cartridge comprising at
least a casing, a sleeve within the casing, a metal stem engaged
within one end of the sleeve, and a reciprocating balancing spool
within the sleeve, the improvement comprising:

the sleeve being molded of a very high temperature ultra
lubricated resin or plastic; and

a biasing spring inserted between the stem and an
end of the balancing spool adjacent the stem.

13.(Original) A pressure balancing cartridge comprising at
least a casing, a sleeve within the casing, a metal stem engaged

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within one end of the sleeve, and a reciprocating balancing spool within the spool, the improvement comprising:

the spool being molded of a very high temperature ultra lubricated resin or plastic; and

a biasing spring inserted between the stem and an end of the balancing spool adjacent the stem.